

ABSTRACT

A denuder assembly is adapted for the collection and removal of a gaseous analyte from a sample gas. The denuder includes a housing including an internal cavity, a sample gas inlet fluidly coupled with a sample gas source, a denuder liquid inlet fluidly coupled with a denuder liquid source, a barrier sheet extending across the internal cavity and separating the internal cavity into a liquid reservoir and a gas flow-through channel fluidly coupled with and downstream of the sample gas inlet, the barrier sheet having a liquid-reservoir surface and a gas-channel surface and being porous to gas and liquid; and a denuder liquid disposed in the liquid reservoir and permeating the barrier sheet to coat the gas-channel surface of the barrier sheet thereby allowing the denuder liquid on the gas-channel surface to contact the sample gas flowing within the gas flow-through channel and allowing the analyte to diffuse through the barrier sheet into the liquid reservoir. A method of using the denuder assembly for collection and removal of soluble atmospheric gases is also disclosed.